



Dworshak Fisheries Complex

Monthly Activity Report



September Highlights

Dworshak

SST BY16 - 2,460,414

SCS BY16 - 3,025,597

SCS BY15 - 1,522,089

COS BY 15 - 289,443

Kooskia

BY 16 Chinook - 528,958

BY 15 Chinook - 693,295

Inside this issue:

Manager's Message	1
Dworshak Hatchery Production	2-3
Dworshak Meetings, Training, Conferences	4
Dworshak Maintenance & Operations	4-5
IFWCO Dworshak M & E	5
Aquatic Conservation	6
Fall Chinook Salmon Research Team	6-7
Idaho Fish Health Center	7
Kooskia NF Hatchery Headlines	8-9
Information & Education	10
Staff List	10

U.S. Fish & Wildlife Service, Region 1

Managers Message - Steve Rodgers

Well, its fall in Idaho, and absolutely beautiful. I love this time of year...the fall colors, hunting, cooler weather, and football of course. My Washington Huskies are ranked #4 in the country, and the Seahawks are doing pretty well too. As much as I'd love to write about fall and football, I have a different objective for the Managers Message this month. I'd like to introduce another new employee in the Dworshak Fisheries Complex. His name is Kurt McCorkle, and he's our new electrician in the maintenance shop at DNFH.

Kurt is from Ridgecrest, California in the Indian Wells Valley, right next to the Mohave Desert. As it turns out, that's very close to Lone Pine, where my wife's family is from...small world I guess. Kurt grew up hunting, fishing, riding ATV's; basically he was outside as much as possible enjoying the world around him. In that regard, he's just like many of us in natural resource work. When pressed for a favorite, he mentioned his love for bass fishing and deer hunting. He picked a good spot to be if he likes those two activities.

Just after high school, Kurt began an electrical apprenticeship at Searle's Valley Mineral (SVM). He worked at SVM for ten years, becoming a journeyman electrician along the way. He then joined the public works department at China Lake California, where he did building maintenance, electrical construction, and a variety of other maintenance tasks for the US Navy. After eleven years there, he decided to move to Idaho, to join us here at DNFH.



Kurt has been married to his wife Kim for ten years, and they are bringing along two boys: Cameron age 9 and Logan age 6. Currently Kim is working for the Department of the Navy as a business financial Manager. She's hopeful she can find work in this area similar to her job there, although they realize that will be challenging in this rural area. In California, Kurt had a large home with five acres, and a variety of animals from chickens to geese to goats. Each of these animals was dragged home when small and 'cute', despite Kurt's opinion on the matter. He let the family know that downsizing the animal fleet was a mandatory part of the move to Idaho. His family (less some of the animals) should be moving here to join him in early December.

Many of you have probably already gotten to know Kurt. As an experienced electrician with loads of experience in all kinds of maintenance, he will certainly be a valued contributor to the team in meeting our goals. Feel free to say hello when you get a chance. Or better yet, give him a tip on some good whitetail hunting (uh...everywhere) or bass fishing (uh...everywhere). Welcome aboard Kurt.

Volume 5 Issue 12



Credit: Carrie Bretz, FWS

Nez Perce Tribal Fisheries crew releases parr into the Selway River.



Credit: Carrie Bretz, FWS

Steelhead parr being released into Selway River.



Credit: Carrie Bretz, FWS

Free at last, parr reared at Dworshak National Fish Hatchery are released into the Selway River.

Dworshak Hatchery Production - Izbicki, Sommer, Bisbee

Dworshak Stock - Spring Chinook Salmon (SCS)

Brood Year 2015 (BY15)

By the end of the month there were 1,522,089 BY 15 SCS fry in 30 raceways. Fry averaged 102FPP (fish per pound). Fish marking occurred from 9/6-9/21/16. The first day of marking we had the NPT trailer in marking pond 3, and then two additional USFWS trailers came in and marked from day two to completion. A total of 301,197 SCS Parr were outplanted to the Selway River on 9/12-9/14/2016. A total of 289,388 Parr were transferred to the Nez Perce Tribal Hatchery on 9/9 & 9/12/2016. All Dworshak SCS remained on #2 BioPro feed throughout the month. All "B" bank ponds had their reuse water turned on 9/26/16. All ponds had the head tank "pass through" screen moved from being on top of the dam boards at ponding to being up one dam board from the bottom at marking. The *Phoma herbarum* fungus had kept the mortality high throughout August and September, but the mortality has tapered off by months end after being split by the marking trailer. Mortality for the month averaged 0.2%.

Brood Year 2016 (BY16)

Spawning began in August with three egg takes occurring during the month. There were two egg takes in September with the season culminating on September 13th. Surplus adults with no tags or injections were outplanted on September 16th. The estimated green egg count for this season was 2,509,210. On August 31st, 516,387 eggs were received from the Nez Perce Tribal Hatchery Complex bringing the total number of eggs on station to 3,025,597. This was a successful season with all egg goals as specified by the brood-stock calculator were achieved. Adult survival in the holding ponds was also high this season. Adults were treated with formalin 3 times weekly, and adults were handled using the anesthetic Aquai-S to reduce stress during spawning and sorting.

As of the end of September, most eggs were on chilled water at an average of 37 degrees, with only the last couple takes still on reservoir water at an average temperature of 44.2 degrees. Eliza tests for BKD identified 11 female egg groups which are above the 0.25 cut-off limit. Unfortunately, there were 17 female egg groups from the NPTHC transfer group above the identified cull limit for BKD. Eggs are treated with a formalin drip 3 times weekly and will continue to be treated until just prior to hatching.

Coho Salmon (COS)

Brood Year 2015 (BY 15)

At the end of September there were 289,433 Umatilla, Kalama, Irrigon, and Clearwater stock Coho fry in 5 Burrow's ponds and 2 semi-circular tanks set into modified Burrow's ponds in System 3. Fry averaged 128fpp and mortality averaged 1.0%.

(Continued page 3)

Dworshak Hatchery Production

(Continued from page 2)

Dworshak Stock- Summer Steelhead (SST)***Brood Year 2016 (BY 16)***

Take 10 remained in the Nursery for most of September but was inventoried and moved into 7 Burrow's ponds at the end of the month. All reservoir water was turned off and the boilers were shut down. Cleaning and sanitizing of the nursery tanks has begun in preparation for BY 17 SST.

River water was blended into System 1 on 9/7/16 and the remaining ponds were watered up. Takes 8 & 9 were split into their final rearing densities and by the end of the month all BY 16 SST takes were in their final rearing locations. Takes 1-8 were on demand feeders being fed Skretting Classic Trout 2.5mm. Takes 9 & 10 were being hand fed BioPro2 1.5 or 2.0 mm feed.

At the end of September there were 2,460,414 fry from takes 1-10 in System 1, 2, & 3 averaging 26 fpp. Mortality in the Systems was 0.20%.

SUMMARY

Table 1. Total Production - Fish on Station (9/30/16).

SP	BY	Location	Number	Wt (lbs)	FPP	L in	L mm
SCS BY 16	16	Incubation (Eggs)	3,025,597				
SST BY 16	16	Systems	2,460,414	105,459	26	4.9	124
SCS BY 15	15	Raceways	1,522,089	14,902	102	3.2	81
COS BY 15	15	System III	289,443	2,617	128	2.9	72
Total Fish/Fry on Station EOM			7,297,543	122,978			

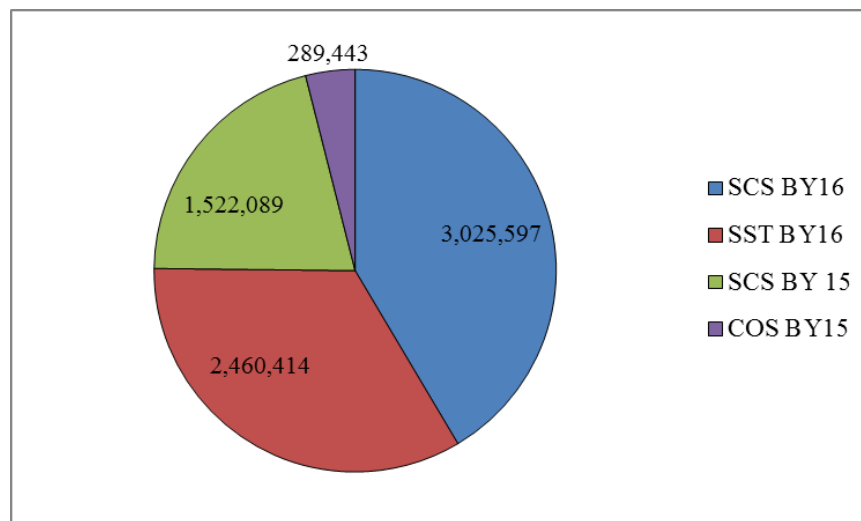


Figure 1. September 30, 2016 Total Fish/Eggs on Station.



Credit: Olson, FWS

Steve Coomer throws feed
to Coho



Credit: Olson, FWS

Different feed pellet sizes.

Dworshak NFH Meetings, Training and Conferences - Drobish

Kurt McCorkle joined the Dworshak Hatchery Team on September 4, 2016. Kurt is our new Electrician. Welcome aboard Kurt.

On September 7-9, 2016, Adam Izbicki and Mark Drobish attended the Region 1 Fisheries Project Leaders Meeting in Lacey, Washington.

On September 8, 2016, Steve Rodgers and Mike Tuell hosted a tour of the Dworshak Fisheries Complex for US Army Corps of Engineers (COE), Lieutenant Cornel Delarosa and three others from the Walla Walla District COE.

Mike Tuell, Mark Drobish and Steve Rodgers met with Dworshak Project and Walla Walla District Staff in Walla Walla, Washington for the quarterly meeting with the Dworshak Fisheries Complex and the U.S. Army Corps of Engineers.

On September 22, 2016, several "Production" staff from the Dworshak Fish Hatchery and staff from the Clearwater State Fish Hatchery, Kooskia National Fish Hatchery and the Nez Perce Tribal Fish Hatchery attended the Nutrition and Fish Health Workshop at the Dworshak Project Visitor Center Amphitheater, Corps of Engineers. Special thank you goes out to Ann Gannam, Ron Twibell, Guppy Blair and Corie Samson for all of their work in putting this 1 day course together for the benefit of the all of the Clearwater River Basin Hatcheries. Thanks also to the Corps of Engineers for the use of the amphitheater for the training.

Brian Devlin participated in Fall Chinook spawning activities at the Spring Creek Hatchery from September 19-September 30, 2016.

On September 29, 2016, Jeremy Sommer, Mike Tuell and Mark Drobish attended and participated in the "Snake Basin Chinook Workgroup Post Season Wrap Up Meeting" at the Idaho Fish and Game Office in Lewiston, Idaho.

DNFH Maintenance and Operations Activity Report - Koehler

- Winterization of facility irrigation has been completed.
- Currently repairing pole lighting throughout the hatchery along drives and parking lots
- Painted 24 inch raw steel piping in system 2 and 3
- Remainder of parts and material are on order to complete the nursery lighting upgrade. More efficient LED lighting is being installed.
- A major Irrigation leak has been repaired in the fire maintenance building.
- Continue working on the Formalin application building.
- The contract for the electrical feeder repairs has been awarded. Repairs are being scheduled
- We will be upgrading the Personal Protective equipment to include FR clothing to better protect our workforce.
- We are currently maintaining two of the four hatchery quarters that are not occupied.

(Continued on page 5)

DNFH Maintenance and Operations Activity Report - Koehler

(Continued from page 4)

Maintenance has completed 57 Preventative Maintenance work orders and 14 written request from hatchery staff for the month of September.

Idaho Fish and Wildlife Conservation Office - Connor (for Project Leader)**Project Leader**

Coordinated with staff on ongoing office activities.

Picked up Smart Card in Spokane.

Attended the project leaders meeting.

Assisted during Bonners Ferry field work.

Got up to speed on PIT-tag monitoring at Kooskia NFH.

Conducted a job interview.

Worked on office staffing, and met with existing staff to discuss the ongoing effort to shape the future vision of the office.

Dworshak Complex Monitoring and Evaluation Team

Checked BY16 Steelhead for coded-wire retention.

Wrote spring Chinook salmon spawning activity reports.

Planned coded-wire tagging of spring Chinook salmon.

Spawmed spring Chinook salmon at Kooskia and Dworshak NFHs.

Entered spring Chinook salmon spawning data into FINS database.

Provided training for new staff scheduled to assume duties at the end of September.

Retrieved CWTs from spring Chinook salmon.

Attended Salmon and Steelhead Days.

Reviewed and edited the Draft Monitoring and Evaluation Plan for Spring Chinook salmon and Steelhead at Dworshak and Kooskia NFHs.

Assisted during Bonners Ferry field work.

Closed out the brood year 2016 spring Chinook salmon data on FINS.

Attended new employee training at NCTC.

(Continued on page 6)

Idaho Fish and Wildlife Conservation Office

Aquatic Conservation Team

(Continued from page 5)



Credit: FWS File Photo

Snorkeling to monitor Mountain Whitefish populations.



Credit: Olson, FWS

Anesthetized Pacific lamprey ammocete larvae.



Credit: Olson, FWS

Young of the year Pacific lamprey larvae.

Attended meetings.

Conducted Mountain Whitefish snorkeling surveys.

Worked in Bonners Ferry.

Attended the presentation portions of the *Salvelinus confluentus* Curiosity Society annual meeting in Sula, MT.

Listened in to a Monarch Butterfly/Roadsides webinar.

Checked in with the Salmon School Garden intern.

Attended end-of-internship presentation by YIGO SVS intern and forwarded it to interested parties.

Edited RFP for FY17 NFPP proposals.

Reviewed and verified climate change monitoring data.

Recruited fish passage proposals.

Attended monthly Upper Salmon Watershed Tech Team meeting.

Coordinated the Salmon School garden science program.

Coordinated with Caribou-Targhee National Forest project completion, project showcase and field tour set up.

Conducted Bonners Ferry field work.

Purchased supplies for the Salmon School Garden educational and interpretive displays.

Taught two modules on plant propagation at the Salmon School Garden to 7th and 8th grades.

Reviewed the CRITFC lamprey supplementation plan.

Worked with IDPNF staff on Big Creek fish passage modifications.

Verified and transferred electrofishing field data from Bonners Ferry to data entry forms.

Fall Chinook Salmon Research Team

Finalized the joint IPC/FWS redd count database.

Reviewed a manuscript for Transactions of the American Fisheries Society.

Continued to develop an alternative survey sampling method for counting redds with UAS.

Continued to develop velocity profiles for a somatic energy use model.

Gave the NPT research director a check-in call.

Completed the first version of an embryo mortality model.

(Continued on page 7)

Fall Chinook Salmon Research Team

(Continued from page 6)

Revised the method for estimating spawning timing from redd count data.

Summarized catch data for scientific collection permit reporting.

Coordinated compilation of a seining data base for the Clearwater River with the Nez Perce Tribe.

Analyzed ATPase data.

Analyzed historical data on spawn and emergence timing of fall Chinook salmon in the Clearwater River drainage with the Nez Perce Tribe Department of Fisheries Resources management to help inform managers planning upcoming Dworshak Dam operations.

Completed emergence timing estimates for fry in the Upper and Lower Hells Canyon spawning areas and in the Clearwater River lower reach during 1992–2016.

Started analyses on spawn timing along the Imnaha, Salmon, and Grande Ronde rivers.

Assisted the Nez Perce Tribe during lamprey field work.

Coordinated life cycle modeling with staff of NOAA and the USGS.

Transferred the water velocity and temperature data from the Idaho Power Company needed for somatic energy use and emergence timing modeling.

Idaho Fish Health Center - Blair

September 2016

Dworshak NFH

Steelhead juveniles: Monthly monitoring was performed on all three systems mid-month. Steelhead in system 1 were off feed, had severely eroded dorsal fins, and had partial adipose clips. Low levels of gas bubble trauma and moderate to heavy levels of Ichthyobodo (Costia) were observed in the gills and recommendations were given for formalin bath treatments. System 2 steelhead looked relatively good, with slightly eroded dorsal fins, and no parasites observed on skin or in gills. However, low to moderate levels of aneurysms, low gas bubble trauma, and excess mucus was observed in the gills of all 6 fish collected. Recommendations were to keep ponds as clean as possible.

Spring Chinook juveniles: Dworshak spring Chinook were examined on Sept. 26 for routine monitoring. Mortality has come down to low levels since the fish were split out to lower densities and fish health appears much improved.

Coho juveniles: Monthly monitoring was conducted on the Coho on Sept. 30. All of the fish in tanks were moved into Burrows ponds except the semi-circular tanks 1 and 8. Light flashing was observed in both of these tanks. No parasites were observed on the skin scraping or the gill wet mounts. Light gas bubble was observed in one fish. Light bacteria were observed on a debris patch in one gill. It was recommended to ensure the tanks were kept as clean as possible. It was also recommended to check the flow and oxygen levels in those tanks.

Kooskia NFH

Spring Chinook juveniles: Kooskia spring Chinook were examined by fish health on Sept. 23. Low but persistent levels of Ichthyophthirius multifiliis were seen on the gills and skin. Recommendations were to continue to treat with formalin once per week for this external parasite.

Kooskia National Fish Hatchery - Hills



Credit: Hills, KNFH

Kayla Warden began her employment with Nez Perce Fisheries at Kooskia National Fish Hatchery as a Tech II Fish Culturist.

This activity report is implemented by the Tribal Fish Hatchery Manager, Kent Hills. All information in this report was collected and or performed by the hatchery staff during the preceding month.

Under SRBA and the Clearwater Annual Operating Plan, the Tribe, Service and Idaho Fish & Game have agreed to implement other fish production actions related to KNFH mitigation. Reports will include additional information about other species reared, processed and released in relation to KNFH operations.

Kooskia Chinook Brood Year 2015

There are 693,295 fish on station; we have had mortality this month of 123. They are on well water at 49° F. The fish are an average of 4.41 inches (112 mm) long and 38.8 fish per pound. Total food fed was 3,587 pounds this month. We have treated several times this month for low concentrations of Ich using a formalin drip. We hope with cooler temperatures we will go on Clear Creek water soon and the increased flow with cooler water will get rid of this parasite.

Kooskia Chinook Brood Year 2016



Credit: Hills, KNFH

On September 6, spawn take four, 150 adult females and 103 adult males were spawned. Eggs from 146 females were retained at an average fecundity of 3,623, total eggs moved to the Clearwater Hatchery 528,958.

On September 13, spawn take five, 80 females and 53 males were spawned. A total of 50 females spawned for the Clearwater Hatchery; with eggs from 49 females transported to the Clearwater Hatchery. Using the Kooskia average fecundity of 3,623, total eggs moved was 181,150. Another 22 females were spawned and retained by Dworshak Hatchery. Using the Kooskia average fecundity of 3,623 total eggs for Dworshak was 79,706. Nine females were killed. At the end of take five, eggs from one female were discarded and eggs from 8 females were retained by Kooskia Hatchery. Using the Kooskia average fecundity of 3,623 total eggs moved was 28,984. All remaining broodstock held at Dworshak for Kooskia were transported to Meadow Creek and released for natural spawning. For the month total females spawned and eggs kept were 226 females and 818,798 green eggs.

Kooskia Adult Trap Operations:

Trap was opened on the 29th for trapping Coho.

Maintenance & Operations:

Sep 03: Treated BY15 with formalin for parasites due to flashing.



Credit: Hills, KNFH

(Continued on page 9)

Kooskia NFH - Hills

(Continued from page 8)

Maintenance & Operations (continued):

- Sep 06:** Kent and Carter to Dworshak for spawning. 150 females were spawned, 108 males were spawned, all eggs were retained by Clearwater Hatchery.
- Sep 07:** Both Obermeyer weirs were put down allowing Clear Creek to flow past the hatchery. The trap was closed and dewatered.
- Sep 12:** Kayla Warden began her employment with Nez Perce Fisheries at Kooskia National Fish Hatchery as a Tech II Fish Culturist. She attended New Employee Orientation in Lapwai.
- Sep 13:** Kent and Kayla went to Dworshak for spawning of Take 5. Fifty females and 53 males were spawned and the eggs taken by Clearwater Hatchery for rearing. A total of 22 females were spawned and the eggs retained by Dworshak Hatchery for rearing. A total of 8 females were spawned and approximately 28,984 eggs were returned to Kooskia National Fish Hatchery for rearing.
- Sep 16:** All adult Chinook being held at Dworshak were relocated to Meadow Creek for natural spawning.
- Sep 18:** The fire in Suttler Creek is controlled and the fire personnel are at the hatchery.
- Sep 19:** Changed out the drain screens on BP's 5 & 6.
- Sep 20:** Treated BY15 with formalin for parasites due to flashing. Last of fire camp demobilized.
- Sep 23:** Had an alarm in the bio-filters electrical system, the main breaker was tripped. This has happened before and a new breaker is ready to install but cannot be installed while the bio-filter is in use. The breaker was reset; however Kent was concerned that it may fail therefore the Obermeyer weirs were put up forcing creek water through the hatchery allowing us to switch from well water to creek water if the bio-filter does fail.
- Sep 27:** Treated BY15 with formalin for parasites due to flashing.

Kooskia NFH Training and Conferences:

- Sep 01:** Kooskia Hatchery Manager attended a Project Leaders meeting.
- Sep 08:** Kooskia Hatchery Manager met with Becky, Marci and Emit on the Clear Creek restoration project below the weir.
- Sep 15:** Fish and Wildlife monthly Project Leaders conference call.
- Sep 22:** Fish Nutrition meeting at the Dworshak Dam Visitors Center.
- Sep 28:** Nez Perce Tribe Project Leaders meeting in Lapwai.

Information and Education

Dworshak - Jill Olson

Facebook: Reach - 631; Engagements - 81 **Website:** Page Loads - 17 ; Unique - 17 ; First Time - 16 ; Returning - 1

Visitors: We received 118 visitors from 23 states.

Tours: Four tours including forty-seven visitors from Orchards Church in Lewiston, USACOE Walla Walla District, BPA Power and Operations Group, and the Public Power Council & ACOE toured the facility in September.

Outreach: We had no outreach activities in the month of September.

Volunteer Hours: Three volunteers contributed a total of 46 hours during the month of September.

Kooskia - Kent Hills

Visitors: There were 209 visitors to the hatchery during this month; this figure is compiled by staff.



Credit: Olson, FWS

Let's Go Outside!

Experience Nature

http://www.fws.gov/pacific/experience_nature/

Dworshak Fisheries Complex Management:

Steve Rodgers, Dworshak Fisheries Complex Manager

Mark Drobish, Dworshak NFH Manager

Adam Izbicki (FWS) & Jeremy Sommer (NPT)
Dworshak NFH Assistant Hatchery Managers

Mike Tuell, SRBA Coordinator

Scott Koehler, Dworshak NFH Maintenance Supervisor

Doug Nemeth, Project Leader, Idaho Fish and Wildlife
Conservation Office

Mike Faler, Aquatic Conservation Lead

Dr. William Conner, Fall Chinook Research Lead

VACANT- Fish Production M&E Lead

Kent Hills, Kooskia NFH Manager

Gerry Fogelman, Kooskia NFH Maintenance Supervisor

Staff List

Dworshak NFH Production: Angela Feldmann, Tom Tighe, Rob Bohn, Wayne Hamilton, Mike Bisbee, Tui Moliga, Steve Coomer, Carter Lopez, Zach Broncheau, Jayden Hudson, Steve Jeffers, Jayson Thompson, Aidan Frye

Administration: Heather Leopard- Administrative Officer, Brian Devlin- Budget Technician

Dworshak NFH Maintenance:

Terry Weeks, Rick King, Rob Kellar, James Oatman, James Paddelty, Melissa Wright, Kurt McCorkle

Idaho Fish and Wildlife Conservation Office:

Ray Jones, Aaron Garcia, Frank Mullins, Jody Brostrom, Chris Griffith

Complex Information and Education: Jill Olson

Kooskia NFH: Kenny Simpson,